Dolores River – Nonpoint Source Pollution Watershed Plan

A project of the Dolores River Dialogue (DRD)

Protecting and maintaining watershed health while ensuring the persistence of native fish in the Dolores River, honoring water rights and protecting local agriculture

June 2013

Summary of Plan

- Grant under Clean Water Act with matching funds from several stakeholders
- Convene stakeholders to evaluate potential water quality issues on Lower Dolores River
- Focus on reach from McPhee to San Miguel River and water quality concerns for native fish
- Compile water quality data for pollutants of concern
- Compile stakeholder perspectives and information underlying pledges in DRD mission statement
- Create menu of potential voluntary opportunities/actions to monitor, protect, or improve water quality and native fish habitat within existing water allocations
- Identify process for DRD or member entities to prioritize and pursue actions

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10. Next Steps (Process, Potential Actions, Costs, Schedule, Milestones)

Decision Tree

1. **Outside of Direct DRD Oversight** – recommended to talk to the DRD, but not required.

   Such projects might be initiated by institutional partners with authority, such as BOR, CPW, etc. These projects might also be initiated by other organizations or NGO's who may be DRD partners (e.g. Trout Unlimited, The Nature Conservancy, etc.), or by ad hoc groups with ties to DRD, but that are considered separate collaborative efforts (e.g. Implementation Team, Lower Dolores Plan Working Group, Legislative Sub-Committee, etc.).

2. **Has Direct DRD oversight** – needs to have DRD consensus to move forward.

   Such projects would be initiated by DRD-based groups. The DRD-SC will continue to guide the process, work to find consensus, and make recommendations to the DRD. The DRD-SC will evaluate all projects on a case-by-case basis to assess potential controversy.

   As a means of identifying the degree of controversy and the potential for consensus associated with a proposal, the DRD offers the following "project do-ability categories":

   Non-controversial or "exempt" – DRD-SC gives a go ahead with funding application

   Not Likely Controversial - Should be fine but review by DRD-SC would be prudent (DRD-SC blessing specifically, question of authority?)

   Somewhat Controversial – Likely will need full DRD review and support process to try and bring either the necessary changes or understanding to make the project non-controversial

   Very Controversial – DRD-SC can try to assess ways to address the controversy. Full DRD review and support process might be useful for the project to move forward

10. Next Steps (Process, Potential Actions, Costs, Schedule, Milestones)

Summary of Identified Potential Actions, Estimated Costs, Milestones and Criteria, by NPS Pollutant

i. Temperature

Criteria: Maintain water temperature below 15°C between Dove Creek Pumps and just above Disappointment Creek in April and May in years when there is a managed spill.

Potential Actions, with Estimated Costs, Milestones, Schedule

- **Minimize risk to McPhee Project water users through use of staged decision-making informed by the best available runoff forecast and real-time temperature information**.
  - Estimated New Cost: $0
  - Milestones: Annually, BOR holds monthly meetings from February thru May to review the most up-to-date forecast and temperature readings, and solicit input on spill management.
  - Schedule: Annually (since 2012): February thru May.
- **Manage water temperature through managed releases from McPhee Reservoir**.
  - Estimated New Cost: $0
  - Milestones: Track continuous readings of water temperature at Dove Creek Pumps and just above Disappointment Creek in April and May in years when there is a managed spill.
  - Schedule: Assess need annually, based on real-time temperature information and best available runoff forecast.
- **Evaluate and agree on temperature model to use going forward. Continue to refine the temperature model with new data in order to fine-tune thermal management hypotheses**.
  - Estimated Cost: $2,000 to $5,000 every 2 years
  - Milestones: An appropriate and robust model is agreed upon (this may be the existing model); the model is accessible and functional; all data is in the appropriate format; the validation method is established; the model is validated; model run, results interpreted, discussed and incorporated into management hypotheses.
  - Schedule: Agree on temperature model by January 2015. Update and run model every two years.
- **Consider incorporating a variable that reflects the effect of "low runoff," i.e. runoff from tributaries entering the Dolores downstream of McPhee Dam, on water temperature**.
  - Estimated Cost: $5000-$10,000.
  - Milestones: Develop a flow rating curve for Disappointment Creek; analyze hydrologic, snowpack, climate etc. data to identify suitable predictor(s) of "low runoff" probability and yield; incorporate variable(s) into temperature model; validate model.
  - Schedule: Within next five years.
- **Monitor and assess the effectiveness of April and May releases at suppressing native fish spawn and at supporting successful spawn**.
  - Estimated Cost: $0 for monitoring and data analysis is completed by CDOW. $0-5000 for Implementation Team workshop to review data and agree on adjustments to management hypotheses.
  - Milestones: Conduct early life history surveys in reaches between Dove Creek Pumps and Bedrock; conduct larval fish sampling; monitor native fish population structures through repeat surveys at long-term sampling sites, especially Dove Creek and Big Gypsum; relate actual flow data and water temperature measurements during pre-peak period to field-based assessments of spawning success; adjust management hypotheses according to findings.
  - Schedule: Annually and as conditions allow.

Appendices

APPENDIX 1: "Formation and Evolution of the DRD and Other Collaborative Stakeholder Efforts to Promote Conservation of the Lower Dolores River," Marsha Porter-Norton, DRD Facilitator

- Introduction
- Intent and Purpose
- Foundational Work
- DRD Evolution, Milestones and Accomplishments
- Staffing and Resources
- Efforts to Establish a National Conservation Area and Better Manage Native Fish in the Context of Available Water Supplies
- The DRD Today

Appendices

APPENDIX 2: "History of Dolores River Water Use, the Dolores Project, the Rise of Environmental Consciousness Nationally and Locally, and Stakeholder Collaboration to Promote Conservation of Lower Dolores River Natural Resources," Ken Curtis, Dolores Water Conservancy District; Jeff Kane, Watershed Plan Consultant; and Matt Clark, Trout Unlimited.

- A Brief Historical Overview of Pre-European Settlement
- Broader Colorado History and the Settlement of Montezuma and Dolores Counties
- Bureau of Reclamation (BOR) and Western Reclamation Projects
- Western Reclamation and the Environment: Evolution in the Conservation Ethos
- Colorado Water Law
- Interstate Water Issues and The Colorado River Compact
- Federal Reserved Water Rights for Indian Reservation
- The Local Reclamation Era: Constructing the Dolores Project
- Trans-Basin Diversions and Montezuma Valley
- Mutual Ditch Companies and MVIC
- Dolores Project as Cooperative Venture with MVIC
- Irrigation of the McElmo Creek Basin
- Water Conservancy District Law in Colorado
- A Brief Timeline of the Dolores Project
- Dolores Project Accomplishments
- Downstream Impacts
- Dolores Project Enabling Legislation, Water Rights Decrees, Contracts, and other Project Commitments

Appendices

- **APPENDIX 3: "A Beginning Compilation of Stakeholder Perspectives on the History of Dolores River Diversions, Agriculture, and Recreational Uses of the Dolores River," Gail Binkly, professional writer and journalist**

  - Preamble
  - Early Years in the Montezuma Valley
  - McElmo Canyon
  - Montezuma Valley Irrigation Company
  - The Dolores Project
  - The Future
  - Boating on the Lower Dolores River

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